

**IN THE CLAIMS**

**Claim 1 (currently amended): A system for forming a thin film resistor (TFR), comprising:**

**a substrate having a resistor material layer formed thereon, the resistor material layer formed from ~~one of nickel chromium (NiCr) and nickel chromium aluminum (NiCrAl)~~; and**

**a plasma etcher that etches the resistor material layer with a plasma etch chemistry to form the TFR.**

**Claim 2 (original): The system of claim 1, the plasma etch chemistry comprising a mixture of chlorine (Cl<sub>2</sub>) and boron tri-chloride (BCl<sub>3</sub>).**

**Claim 3 (original): The system of claim 1, the mixture of chlorine (Cl<sub>2</sub>) and boron tri-chloride (BCl<sub>3</sub>) having a mixture ratio of one of about 3:1, about 4:1, about 5:1, about 10:1 and about 20:1.**

**Claim 4 (original): The system of claim 1, the plasma etcher further comprising a processing chamber that provides a magnetically enhanced environment during etching of the resistor material layer.**

**Claim 5 (original):** The system of claim 4, the magnetically enhanced environment having a magnetic field of about 45 Gauss to about 55 Gauss.

**Claim 6 (original):** The system of claim 1, the plasma etcher further comprising a processing chamber that provides a low pressure environment in the processing chamber during etching of the resistor material layer.

**Claim 7 (original):** The system of claim 6, the low pressure environment in the process chamber being about 5 mTorr to about 15 mTorr.

**Claim 8 (original):** The system of claim 1, the plasma etcher etching the resistor material layer at a power of about 700 watts to about 1100 watts.

**Claim 9 (original):** The system of claim 1, the substrate residing in a processing chamber of the plasma etcher, the processing chamber having an anode and a cathode operative to generate an electric field and create plasma, the processing chamber also having walls, at least one of the cathode and anode being set at a temperature of about 80°C to about 90°C and the walls being set at a temperature of about 60°C to about 70°C.

**Claim 10 (original):** The system of claim 1, further comprising a measurement system that monitors spectral emissions from the plasma during the etching of the resistor material layer to determine when to halt the etching of the resistor material layer.

**Claim 11 (original):** The system of claim 10, the spectral emission including chromium emissions.

**Claim 12 (withdrawn):** A method for forming a thin film resistor (TFR), comprising:

forming a dielectric layer over a substrate;

forming a resistor material layer formed from one of nickel chromium (NiCr) and nickel chromium aluminum (NiCrAl) on the dielectric layer; and

etching the resistor material layer with a plasma etch chemistry to form the TFR.

**Claim 13 (withdrawn):** The method of claim 12, the plasma etch chemistry being a mixture of chlorine (Cl<sub>2</sub>) and boron tri-chloride (BCl<sub>3</sub>), the mixture ratio of Cl<sub>2</sub>:BCl<sub>3</sub> being one of about 3:1, about 4:1, about 5:1, about 10:1 and about 20:1.

**Claim 14 (withdrawn):** The method of claim 12, further comprising exposing the resistor material layer to a magnetically enhanced low pressure environment during etching of the resistor material layer.

**Claim 15 (withdrawn):** The method of claim 14, the magnetically enhanced low pressure environment having a magnetic field of about 45 Gauss to about 55 Gauss.

**Claim 16 (withdrawn):** The method of claim 14, the magnetically enhanced low pressure environment having a pressure of about 5 mTorr to about 15 mTorr.

**Claim 17 (withdrawn):** The method of claim 12, the etching the resistor material layer being at a power of about 700 watts to about 1100 watts.

**Claim 18 (withdrawn):** The method of claim 12, further comprising monitoring plasma spectral emissions during etching of the resistor material to determine when to halt the etching of the resistor material layer.

**Claim 19 (withdrawn):** The method of claim 18, the measured emissions comprising chromium emissions.

Claim 20 (withdrawn): The method of claim 12, further comprising forming a capping layer over the TFR.

Claim 21 (withdrawn): The method of claim 20, further comprising etching TFR vias in the capping layer with a sulfuric hexafluoride (SF<sub>6</sub>) etch chemistry.

Claim 22 (withdrawn): The method of claim 12, further comprising forming a dielectric layer over the TFR and etching TFR vias in the dielectric layer to expose ends of the TFR, and filling the TFR vias with a contact material to form TFR contacts.

Claim 23 (currently amended): A system for forming a thin film resistor (TFR), comprising:

means for plasma etching at least one of a nickel chromium (NiCr) and a nickel chromium aluminum (NiCrAl) resistor material layer formed on a substrate with a chemistry selective to the at least one of nickel chromium (NiCr) and nickel chromium aluminum (NiCrAl) to form the TFR; and

means for providing a low pressure magnetically enhanced environment for the plasma etching.

**Claim 24 (original): The system of claim 23, the plasma etch chemistry being a mixture of chlorine (Cl<sub>2</sub>) and boron tri-chloride (BCl<sub>3</sub>), the mixture ratio of Cl<sub>2</sub>:BCl<sub>3</sub> being one of about 3:1, about 4:1, about 5:1, about 10:1 and about 20:1.**

**Claim 25 (original): The system of claim 23, the magnetically enhanced low pressure environment having a magnetic field of about 45 Gauss to about 55 Gauss and a pressure of about 5 mTorr to about 15 mTorr.**

**Claim 26 (original): The system of claim 23, further comprising a measurement system that monitors spectral emissions from the plasma during the etching of the resistor material layer to determine when to halt the etching of the resistor material layer.**